



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,592	11/29/2007	Jaroslav Abramczyk	NU-213WO-1	3593
38731	7590	03/02/2009	EXAMINER	
NUFERN			HELLNER, MARK	
Peter J. Rainville			ART UNIT	PAPER NUMBER
7 AIRPORT PARK ROAD			3663	
EAST GRANBY, CT 06026			NOTIFICATION DATE	DELIVERY MODE
			03/02/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hsamson@nufern.com  
prainville@nufern.com

<i>Office Action Summary</i>	Application No.	Applicant(s)	
	10/597,592	ABRAMCZYK, JAROSLAW	
	Examiner	Art Unit	
	Mark Hellner	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

DETAILED ACTION

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16, 19, 21-26 and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Koplow et al (2002/0159139).

Re claim 1:

Koplow et al disclose an optical apparatus for providing light having a selected linear polarization having a polarization ratio (title), the apparatus comprising a length of optical fiber (32) comprising a rare earth for providing light having a first wavelength responsive to receiving pump light (48) having a second wavelength that is different from the first wavelength.

Claim 1 recites the following functional language:

Wherein if said length of optical fiber were placed in a first position wherein the length of fiber is substantially linearly oriented the fiber could propagate at the first wavelength a fundamental mode and a plurality of higher order modes and the apparatus could provide light having a first polarization ratio for the selected linear polarization and an  $M^2$  parameter, and wherein the length of fiber is positioned in a second that increases the bend loss of the fiber relative to the first position such that, responsive to the increased bend loss, the apparatus can provide light having a

Art Unit: 3663

reduced  $M(\text{squared})$  parameter relative to the  $M(\text{squared})$  parameter as well as a second polarization ratio for the selected linear polarization that is increased relative to the first polarization ratio such that the second polarization ratio is, at least 6 dB greater than the first polarization ratio, and wherein when said length of fiber is in the second position the apparatus can provide a slope efficiency that is at least 50% of the ratio of the second wavelength to said first wavelength.

Figure 3 of the present application shows that the apparatus doing the claimed function is a fiber wound around a mandrel.

Koplow et al discloses a fiber (32) wound around a mandrel (34), thus providing structure that can perform the functional language of claim 1.

Claims 2-12 recite inherent properties of the structure applied to claim 1.

Re claims 13-16, 19, 21-26 and 28-30.

These claims essentially read on the structure applied to claims 1-12 and further specify detail about the structure of the doped fiber as supported by figures 4a, 5a and 6 of the present application.

This structure is also disclosed by figures 1-3 of Koplow et al.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3663

Claims 17, 18, 20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koplow et al.

The difference between Koplow et al and the subject matter of claims 17, 18, 20 and 27 is the use of grating reflectors to create a laser source.

It was notoriously well known to the skilled artisan that using reflectors to create a resonant cavity in an amplifying fiber results in a laser source.

Any inquiry concerning this communication should be directed to Mark Hellner at telephone number 571 272 6981.

/Mark Hellner/

Primary Examiner, Art Unit 3663